

|     |      |                                                                         |                                             |    |     |                  |
|-----|------|-------------------------------------------------------------------------|---------------------------------------------|----|-----|------------------|
| S45 | 1    | (amin-moeness-gamal.in.) and (minimiz\$5 near (cost adj2 function))     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:45 |
| S46 | 1    | (he-lin.in.) and (minimiz\$5 near (cost adj2 function))                 | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:45 |
| S47 | 0    | (zhang-ymin.in.) and (minimiz\$5 near (cost adj2 function))             | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:45 |
| S48 | 1    | (zhang-yimin.in.) and (minimiz\$5 near (cost adj2 function))            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:46 |
| S49 | 2    | sarnoff adj2 corporation.as. and (minimiz\$5 near (cost adj2 function)) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:46 |
| S50 | 1    | S49 and (gradient adj2 recurs\$3)                                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:47 |
| S51 | 4    | (equaliz\$5) same (gradient adj2 recurs\$3)                             | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:47 |
| S52 | 1    | S51 and (minimiz\$5 near (cost adj2 function))                          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:47 |
| S53 | 1241 | (minimiz\$5 near (cost adj2 function))                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 10:47 |
| S54 | 1    | S53 and ((equaliz\$5) and (gradient adj2 recurs\$3))                    | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:01 |
| S55 | 0    | (equaliz\$5) near ((cost adj2 funct\$3) and (gradient adj2 recurs\$3))  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:02 |
| S56 | 5    | (equaliz\$5) and ((cost adj2 funct\$3) and (gradient adj2 recurs\$3))   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:14 |

|     |   |                                                                                                         |                                             |    |     |                  |
|-----|---|---------------------------------------------------------------------------------------------------------|---------------------------------------------|----|-----|------------------|
| S57 | 0 | S56 and @ad<"2010406"                                                                                   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:02 |
| S58 | 3 | S56 and @ad<"20010406"                                                                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:08 |
| S59 | 2 | gradient adj2 recursive adj2<br>equaliz\$5                                                              | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:08 |
| S60 | 0 | S59 and ((cost adj2 function) near<br>(amplitude and phase))                                            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:08 |
| S61 | 2 | S59 and ((cost adj2 function))                                                                          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:08 |
| S62 | 2 | S61 and @ad<"20010406"                                                                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:14 |
| S63 | 0 | ((recursive adj2 equaliz\$5) near<br>gradien)                                                           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:09 |
| S64 | 0 | ((recursive adj2 equaliz\$5) near<br>gradient)                                                          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:09 |
| S65 | 4 | 375/229-234.ccls. and<br>((equaliz\$5) and ((cost adj2<br>funct\$3) and (gradient adj2<br>recurs\$3)))  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:15 |
| S66 | 3 | S65 and @ad<"20010406"                                                                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:16 |
| S67 | 3 | 375/229-234.ccls. and<br>((equaliz\$5) and ((cost adj2<br>funct\$3) same (gradient adj2<br>recurs\$3))) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:16 |
| S68 | 2 | S67 and @ad<"20010406"                                                                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:24 |

|     |      |                                                                                            |                                             |    |     |                  |
|-----|------|--------------------------------------------------------------------------------------------|---------------------------------------------|----|-----|------------------|
| S69 | 0    | 375/348.ccls. and ((equaliz\$5) and ((cost adj2 funct\$3) same (gradient adj2 recurs\$3))) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:16 |
| S70 | 2    | 708/300.ccls. and ((equaliz\$5) and ((cost adj2 funct\$3) same (gradient adj2 recurs\$3))) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:16 |
| S71 | 2    | S70 and @ad<"20010406"                                                                     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:22 |
| S72 | 0    | S71 and (select\$3 near band)                                                              | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:25 |
| S73 | 11   | 375/347.ccls. and (select\$3 near band)                                                    | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:24 |
| S74 | 2    | S73 and (antenna\$1 and (equaliz\$5 near weight\$1))                                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:25 |
| S75 | 0    | S74 and @ad<"20010406"                                                                     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:26 |
| S76 | 2    | S73 and (equaliz\$5 near weight\$1)                                                        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:24 |
| S77 | 9    | 375/229-234.ccls. and (select\$3 near band)                                                | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:26 |
| S78 | 0    | S77 and (antenna\$1 and (equaliz\$5 near weight\$1))                                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:26 |
| S79 | 0    | S77 and (equaliz\$5 near weight\$1)                                                        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:26 |
| S80 | 3674 | (select\$3 near (frequency adj2 band\$1))                                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:17 |

|     |     |                                                                               |                                             |    |     |                  |
|-----|-----|-------------------------------------------------------------------------------|---------------------------------------------|----|-----|------------------|
| S81 | 10  | S80 and (antenna\$1 and (equaliz\$5 near weight\$1))                          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:26 |
| S82 | 4   | S81 and @ad<"20010406"                                                        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:30 |
| S83 | 199 | (blind adj2 equaliz\$5) same (weight\$1 or coefficient\$1)                    | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:29 |
| S84 | 0   | S83 and ((select\$3 near (frequency adj2 band\$1)))                           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:17 |
| S85 | 0   | S80 and ((blind adj2 equaliz\$5) same (weight\$1 or coefficient\$1))          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:30 |
| S86 | 0   | S80 and ((blind adj2 equaliz\$5) and (weight\$1 or coefficient\$1))           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:30 |
| S87 | 21  | 375/347.ccls. and ((blind adj2 equaliz\$5) and (weight\$1 or coefficient\$1)) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 11:30 |
| S88 | 11  | S87 and @ad<"20010406"                                                        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:19 |
| S89 | 0   | S88 and ((m adj2 cma) or (modified adj2 constant adj2 modulus))               | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:19 |
| S90 | 3   | 375/347.ccls. and ((m adj2 cma) or (modified adj2 constant adj2 modulus))     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:35 |
| S91 | 0   | S90 and (multi adj2 (band or mode))                                           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:18 |
| S92 | 0   | S90 and ((select\$3 near (frequency adj2 band\$1)))                           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:19 |

|      |    |                                                                                     |                                             |    |     |                  |
|------|----|-------------------------------------------------------------------------------------|---------------------------------------------|----|-----|------------------|
| S93  | 10 | 375/347.ccls. and (select\$3 near (frequency adj2 band\$1))                         | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:17 |
| S94  | 0  | S93 and (blind adj2 equaliz\$5)                                                     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:19 |
| S95  | 0  | S87 and ((select\$3 near (frequency adj2 band\$1)))                                 | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:46 |
| S96  | 0  | S87 and (multi adj2 (band or mode))                                                 | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:18 |
| S97  | 10 | 375/347.ccls. and ((select\$3 near (frequency adj2 band\$1)))                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:19 |
| S98  | 7  | S97 and @ad<"20010406"                                                              | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:35 |
| S99  | 0  | S98 and (blind adj2 equaliz\$5)                                                     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:20 |
| S100 | 0  | S98 and ((m adj2 cma) or (modified adj2 constant adj2 modulus))                     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:49 |
| S101 | 1  | S98 and (adapt\$3 adj2 equaliz\$5)                                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:28 |
| S102 | 2  | S98 and ( equaliz\$5)                                                               | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:28 |
| S103 | 8  | (blind adj2 equaliz\$5) and ((m adj2 cma) or (modified adj2 constant adj2 modulus)) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:35 |
| S104 | 4  | S103 and @ad<"20010406"                                                             | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:56 |

|          |     |                                                                                |                                             |    |     |                  |
|----------|-----|--------------------------------------------------------------------------------|---------------------------------------------|----|-----|------------------|
| S10<br>5 | 2   | S104 and (weight\$1 or coefficient\$1)                                         | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:46 |
| S10<br>6 | 0   | S105 and antenna\$1                                                            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:38 |
| S10<br>7 | 0   | S104 and antenna\$1                                                            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:38 |
| S10<br>8 | 0   | S105 and ((select\$3 near (frequency adj2 band\$1)))                           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:48 |
| S10<br>9 | 0   | S104 and (array)                                                               | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:46 |
| S11<br>0 | 0   | S104 and ((select\$3 near (frequency adj2 band\$1)))                           | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:47 |
| S11<br>1 | 0   | (blind adj2 equaliz\$5) and ((select\$3 near (frequency adj2 band\$1)))        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:49 |
| S11<br>2 | 331 | (equaliz\$5) and ((select\$3 near (frequency adj2 band\$1)))                   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:49 |
| S11<br>3 | 0   | S112 and ((m adj2 cma) or (modified adj2 constant adj2 modulus))               | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:56 |
| S11<br>4 | 1   | "6301313".pn. and equaliz\$5                                                   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 12:54 |
| S11<br>5 | 3   | 375/232.ccls. and ((plurality or multiple or many or two) adj2 ffe\$1) and dfe | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:01 |
| S11<br>6 | 3   | S115 and @ad<"20010406"                                                        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 14:36 |



|          |   |                                                                           |                                             |    |     |                  |
|----------|---|---------------------------------------------------------------------------|---------------------------------------------|----|-----|------------------|
| S11<br>7 | 0 | S116 and ((m adj2 cma) or (modified adj2 constant adj2 modulus))          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:00 |
| S11<br>8 | 0 | 375/323.ccls. and ((m adj2 cma) or (modified adj2 constant adj2 modulus)) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:00 |
| S11<br>9 | 2 | 375/232.ccls. and ((m adj2 cma) or (modified adj2 constant adj2 modulus)) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:00 |
| S12<br>0 | 0 | S119 and ((plurality or multiple or many or two) adj2 ffe\$1) and dfe     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:04 |
| S12<br>1 | 5 | (cost adj2 function) same (gradient adj2 recurs\$3)                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:09 |
| S12<br>2 | 3 | S121 and @ad<"20010406"                                                   | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:05 |
| S12<br>3 | 0 | S122 and ((cost adj2 function) near (amplitude and phase))                | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:09 |
| S12<br>4 | 3 | S122 and ((amplitude and phase))                                          | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:06 |
| S12<br>5 | 0 | ((cost adj2 function) near (amplitude and phase))                         | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:09 |
| S12<br>6 | 1 | ((cost adj2 function) near (qam))                                         | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:12 |
| S12<br>7 | 0 | S126 and (gradient adj2 recurs\$3)                                        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:09 |
| S12<br>8 | 0 | "6301313".pn. and (weight\$1 or coefficient\$1 or tap\$1)                 | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 13:12 |

|          |   |                                                                    |                                             |    |     |                  |
|----------|---|--------------------------------------------------------------------|---------------------------------------------|----|-----|------------------|
| S12<br>9 | 1 | "6490318".pn. and amplitude                                        | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 14:37 |
| S13<br>0 | 1 | ((cost adj2 function) near (qam))                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 14:40 |
| S13<br>1 | 1 | S130 and phase and amplitude                                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 14:40 |
| S13<br>2 | 5 | (cost adj2 function) same<br>(gradient adj2 recurs\$3)             | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 15:00 |
| S13<br>3 | 3 | S132 and @ad<"20010406"                                            | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 14:59 |
| S13<br>4 | 3 | S133 and amplitude and phase                                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 14:59 |
| S13<br>5 | 0 | cap same (gradient adj2 recurs\$3)                                 | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 15:00 |
| S13<br>6 | 0 | cap and (gradient adj2 recurs\$3)                                  | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 15:01 |
| S13<br>7 | 0 | "6259743".pn. and (gradient adj2<br>recurs\$3)                     | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/28 15:01 |
| S13<br>8 | 0 | "5416845".pn. and equaliz\$5 and<br>(rf or (radio adj2 frequency)) | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/29 07:22 |
| S13<br>9 | 0 | "5416845".pn. and equaliz\$5                                       | US-PGPUB;<br>USPAT;<br>EPO; JPO;<br>DERWENT | OR | OFF | 2005/03/29 07:22 |